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Robert C. Lovell JR.

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EXAMINER

CHAN, RICHARD

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/724,106	Applicant(s) LOVELL ET AL.	
	Examiner Richard Chan	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 11 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,3-5, 7, and 9-12 is rejected under 35 U.S.C. 103(a) as being unpatentable over McIntosh (US 2003/0171119 A1) in view of Serbetcioglu (US 5,719,918) and further in view of Papadopoulos (US 6,978,156).

With respect to claim 1, McIntosh discloses the method for routing a message from a first mobile 136 station to a second mobile station 144, comprising: receiving a routing request from a third party, network 100 for routing a message from the first mobile station 136 to the second mobile station 144, the routing request being received by an intermediary 104 and 110b; wherein the intermediary operates neither a physical home location register (HLR) which is described in detail with Fig.4 (Paragraph 0039); wherein determining to which carrier the second mobile station 144 subscribes; and wherein the steps of receiving and returning employ SS7 150 (Paragraph 0039).

However the McIntosh reference does not disclose wherein the intermediary process implements a non-physical mobile switching center and wherein creating an artificial International Mobile Subscriber Identity (IMSI) value based, at least in part, on the carrier to which the second mobile station subscribes; and returning a routing

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response from the intermediary to the third party for routing the message from the first mobile station to the second mobile station wherein, the routing response including the artificial IMSI value, such that the intermediary is considered, from the point of view of the third party, as a mobile switching center.

The Serbetcioglu reference however discloses a virtual mobile switching center 502 in Fig.5 which is used to simulate a physical switching center 302 which is then used to interface to the rest of the network disclosed in Fig.5 (Col.8 lines 52-64)

It would have been obvious to one of ordinary skill in the art to implement a virtual mobile switching center as disclosed by Serbetcioglu to replace the physical MSC as disclosed by McIntosh in order to reduce physical space and implement dynamic software to take place of static hardware implementations.

The Papadopoulos reference discloses the dynamic selection of an international subscriber identification (IMSI) value in Fig.3. IMSI selection takes place with step S1 which can be at the request of the network. (Col.4 lines 5-18)

It would have been obvious to one of ordinary skill in the art to implement a dynamic selection of the IMSI value by the carrier as disclosed by Papadopoulos to the method of routing a message as disclosed by McIntosh in order to identify the user mobile station and determine to which carrier the user's mobile unit belongs to.

With respect to claim 3, McIntosh, Serbetcioglu, and Papadopoulos combined disclose the method according to claim 1, wherein determining to which carrier the second mobile subscribes includes performing a lookup of the second mobile station

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against a database **128** including a plurality of mobile stations associated with a plurality of carriers so that the intermediary functions as a virtual home location register. **[0034]**

With respect to claim 4, McIntosh, Serbetcioglu, and Papadopoulos combined disclose the method according to claim 1, wherein the second mobile station is a domestic mobile station, and the carrier to which the second mobile station subscribes and the intermediary are in geographic proximity. [Fig.3]

With respect to claim 5, McIntosh, Serbetcioglu, and Papadopoulos combined disclose the method according to claim 4, wherein the first mobile station is an international mobile station and a carrier associated with the first mobile station is on a Global System for Mobile Communication (GSM) network. **[0035]**

With respect to claim 7, McIntosh discloses the method for routing a Global System for Mobile Communication (GSM) **[0035]** Mobile Application Part (MAP) Send Routing Info for Short Message (SRI for SM) message from a third party in connection with sending a message from a first mobile station 136 on a GSM network to a second mobile station 144, **[0038]** comprising: receiving a routing request from the third party, network 100 for routing a message from the first mobile station to the second mobile station, the routing request being received by an intermediary via a SS7 network; **[0027]** determining to which carrier the second mobile station 144 subscribes; **[0032-0035]**

However the McIntosh reference does not specifically disclose dynamically creating an artificial International Mobile Subscriber Identify (IMSI) value based, at least in part, on the carrier to which the second mobile station subscribes; and returning a routing response from the intermediary to the third party for routing the message from the first mobile station to the second mobile station, the routing response including the artificial IMSE value, such that the intermediary is considered, from the point of view of the third party, as a mobile switching center.

The Serbetcioglu reference however discloses a virtual mobile switching center 502 in Fig.5 which is used to simulate a physical switching center 302 which is then used to interface to the rest of the network disclosed in Fig.5 (Col.8 lines 52-64)

It would have been obvious to one of ordinary skill in the art to implement a virtual mobile switching center as disclosed by Serbetcioglu to replace the physical MSC as disclosed by McIntosh in order to reduce physical space and implement dynamic software to take place of static hardware implementations.

The Papadopoulos reference discloses the dynamic selection of an international subscriber identification (IMSI) value in Fig.3. IMSI selection takes place with step S1 which can be at the request of the network. (Col.4 lines 5-18)

It would have been obvious to one of ordinary skill in the art to implement a dynamic selection of the IMSI value by the carrier as disclosed by Papadopoulos to the method of routing a message as disclosed by McIntosh in order to identify the user mobile station and determine to which carrier the user's mobile unit belongs to.

With respect to claim 9, McIntosh, Serbetcioglu, and Papadopoulos combined disclose the method according to claim 7, wherein determining to which carrier the second mobile subscribes includes performing a lookup of the second mobile station against a database 128 including a plurality of mobile stations associated with a plurality of carriers, whereby the intermediary functions as a virtual home location register.

[0034]

With respect to claim 10, McIntosh, Serbetcioglu, and Papadopoulos combined disclose the method according to claim 7, wherein the second mobile station is a domestic mobile station and the carrier to which the second mobile station subscribes and the intermediary are in geographic proximity. **[0034]**

With respect to claim 11, McIntosh discloses a virtual network device 128 Fig.4 configured to receive routing requests from third parties for routing a message from one mobile station 136 to another mobile station 144 and to return routing responses to the third parties network 100 Fig.3; an intermediary comprising: a gateway interface device including a database HLR 116 storing a plurality of mobile station identifiers associated with a plurality of carriers (Paragraph 33), the gateway interface device being configured to perform a lookup to determine to which carrier the second mobile subscribes when provided a specific mobile station identifier and to return the carrier associated with the specific mobile station identifier (Paragraph 0036).

However McIntosh does not specifically disclose wherein the gateway interface device being configured to create an artificial international mobile subscriber identity (IMSI) value based, at least in part, on the associated carrier and to provide to the virtual network device the artificial IMSI value such that the intermediary appears, from the point of view of third parties, as a mobile switching center and wherein the virtual network device and the gateway interface device communicate such that, from the point of view of third parties, the intermediary appears to operate a HLR and a MSC.

The Papadopoulos reference discloses the dynamic selection of an international subscriber identification (IMSI) value in Fig.3. IMSI selection takes place with step S1 which can be at the request of the network. (Col.4 lines 5-18)

It would have been obvious to one of ordinary skill in the art to implement a dynamic selection of the IMSI value by the carrier as disclosed by Papadopoulos to the method of routing a message as disclosed by McIntosh in order to identify the user mobile station and determine to which carrier the users mobile unit belongs to.

The Serbetciouglu reference however discloses a virtual mobile switching center 502 in Fig.5 which is used to simulate a physical switching center 302 which is then used to interface to the rest of the network disclosed in Fig.5 (Col.8 lines 52-64) which from the view of third parties would seem to operate a HLR and a MSC.

It would have been obvious to one of ordinary skill in the art to implement a virtual mobile switching center as disclosed by Serbetciouglu to replace the physical MSC as disclosed by McIntosh in order to reduce physical space and implement dynamic software to take place of static hardware implementations.

With respect to claim 12 McIntosh, Serbetcioglu, and Papadopoulos combined disclose the method according to claim 11, however McIntosh continues to disclose wherein the intermediary periodically uploads information including mobile station identifiers of carriers supported by the intermediary to the third parties. **[0033]**

3. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over McIntosh (US 2003/0171119 A1) and Serbetcioglu (US 5,719,918) and Papadopoulos (US 6,978,156) in view of Lam (US 6,782,276).

With respect to claim 2 and 8, McIntosh, Serbetcioglu, and Papadopoulos combined disclose the method according to claim 1 and 7, however does not disclose wherein the mobile switching center is a virtual mobile switching center.

The Lam reference however discloses wherein a mobile switching center is a virtual mobile switching center **31** that is implemented within a SS7 protocol environment. **(Col.4 lines 12-30)**

It would have been obvious to one of ordinary skill in the art to implement the Virtual Mobile Switching Center technique as described by Lam with the method of routing a message as disclosed by McIntosh in order to effectively distribute message requests between multiple end user devices with each other.

Response to Arguments

4. Applicant's arguments with respect to claim 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chan whose telephone number is (571) 272-0570. The examiner can normally be reached on Mon - Fri (9AM - 5PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard Chan
Art Division 2618
10/19/06



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PATENT EXAMINER/TELECOMM.



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